REMARKS

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of June 15, 2004. Claims 1-20 remain in this application. Claim 20 has been amended to correct certain informalities.

Reconsideration of the Application is requested.

The Office Action

The disclosure in the specification was objected to because of a typographical error. This typographical error has been corrected, and Applicants respectfully request that the objection be removed.

Claims 1-5 and 9-20 were rejected under 25 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,748,176 to Gondek.

Claims 6-8 were objected to as being dependent upon a rejected base claim.

Claim 20 was objected to because of certain informalities. Claim 20 has been amended to address these informalities, and Applicants respectfully request that the objection be removed.

Claims 1-20 remain in this application.

The Claims are Patentably Distinguishable Over the Cited References.

The Examiner rejected claims 1-5 and 9-20 as being anticipated by Gondek. Gondek discloses a method of converting data points from an RGB color space into pixels in an output color space. This method involves looking in a lattice of data points to find a predefined value in proximity to the desired output color value and then using "repetitive subdivision" in order to compute a more accurate result. This repetitive subdivision process defines an initial cube surrounding the desired output color space value, each vertice of the initial cube is one of the original pre-defined points in the lattice. The repetitive subdivision iteratively divides the initial cube into successively smaller sub-cubes, the vertices of which are computed by using interpolation. After multiple iterations, the sub-cubes eventually converge on the final interpolated output color value, the output color value being either one of the sub-cube corners or some average of the eight converged data points. (see col. 7, lines 27-31). In the repetitive subdivision process, a minimum of seven of the eight vertices of each sub-cube must be computed by an interpolation function of the form (p-p')/2. Thus, to reach the final interpolated value, multiple iterations of computing

seven different interpolation equations must be completed. Gondek thus does not disclose a mid-point interpolation, but rather a series of iterative interpolations.

In contrast, independent claims 1, 9, and 15 of the present application are directed to converting a color value from a first color space to a second or final color space as a function of the specified color value and a mid-point interpolation. These features, as described and claimed, are not present in Gondek. As such, claims 1, 9, and 15 are patentably distinct from Gondek and should be allowed.

Moreover, the Examiner will appreciate that the repetitive subdivision process does not produce a new table, but rather only those values necessary for the vertices of the increasingly smaller sub-cubes. Gondek, thus, does not disclose, or otherwise teach, computing a new lookup table.

In contrast, claim 2 of the present invention further recites creating a final lookup table from an initial lookup table, the initial lookup table having a lower resolution than the final lookup table. This feature, as described and claimed, is not present in Gondek. As such, claim 2 is patentably distinct from Gondek and should be allowed.

Lastly, by using the repetitive subdivision method, Gondek does not seek to link the number of necessary interpolations to the lattice resolution. Taking the example used in Gondek, for a three bit initial lattice size (729 pre-computed data points), the final outputted result may be generated after the computation of one sub-cube, i.e. seven intermediate interpolations, two sub-cubes, i.e. fourteen intermediate interpolations, or any number of sub-cubes up to the fifth sub-cube (assuming a sixteen bit input color space). The choice of how many repetitions of the subdivision depends on the desired accuracy of the output result. Thus, in Gondek, the final number of interpolations performed is not a function of the initial lattice resolution (i.e. size), but rather of the desired output accuracy.

In contrast, claims 3 and 12 of the present application are directed at performing a number of mid-point interpolations as a function of the resolution of the final output table. In other words, if the final output table resolution is seven bits, only one mid-point interpolation will be necessary. Whereas, if the final output table resolution is six bits, certain specified color values may require two mid-point interpolations to reach a final output value. This feature, as described and claimed, is not present in Gondek. As such, claims 3 and 12 are also distinguished.

All remaining claims depend on one of claims 1, 9 and 15. Since claims 1, 9

and 15 should be allowed, all the remaining claims should also be allowed. In addition, dependent claims such as 6-8 mentioned by the Examiner and those discussed herein, as well as others, are also believed to contain allowable subject matter.

CONCLUSION

For the reasons detailed above, it is submitted all claims remaining in the application (Claims 1-20) are now in condition for allowance. The foregoing comments do not require unnecessary additional search or examination.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to call Mark Svat, at Telephone Number (216) 861-5582.

Respectfully submitted,

FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP

9/15/04
Date

Mark S. Svat
Reg. No. 34,261
1100 Superior Avenue, 7th Floor
Cleveland, Ohio 44114-2579
(216) 861-5582

Attachments: Replacement Sheet, page 1/4; and
Annotated Marked-up Drawings, showing changes

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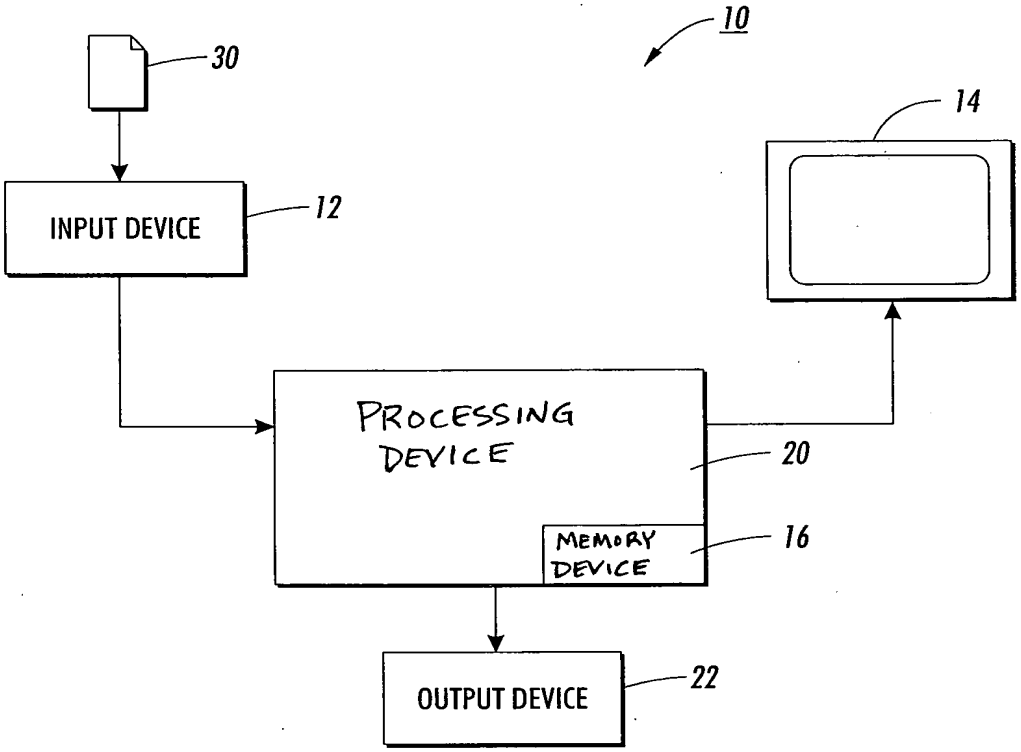
10
30
14
INPUT DEVICE
12
PROCESSING DEVICE
20
MEMORY DEVICE
16
OUTPUT DEVICE
22

FIG. 1